MEDUSA

WATERPROOFING

PATENTED

THE SANDUSKY
CEMENT COMPANY
CLEVELAND, OHIO, U.S.A.

WARNING

ALL materials for waterproofing concrete or mortar, in powder or paste form, consisting essentially of fatty acids combined with calcareous bases, unless manufactured under our license, are INFRINGEMENTS OF OUR BASIC PATENTS. All such infringements will be **vigorously prosecuted.** All makers and users of concrete waterproofing materials are cautioned that the sale or use of waterproofing material, unless bearing the Medusa trade mark or the words "licensed under the Newberry patent No. 851247" may render them liable to suit for infringement.

MEDUSA CONCRETE WATERPROOFING CO.

Medusa Waterproofing Patent Sustained

In the United States District Court, Northern District of Illinois, on February 13, 1914, a decree was entered declaring the Newberry patent, No. 851247, to be good and valid, and that the McCormick Waterproof Portland Cement Company and S. T. Sjoberg infringed said patent and are perpetually enjoined from making or selling waterproof cement or carrying on the process described in said patent, and that the complainant shall recover the damages resulting from said infringement. The United States Court of Appeals, Seventh Circuit, rendered a decision on January 4, 1915, fully affirming the decision of the United States District Court, Northern District of Illinois. A copy of the decree, in pamphlet form, will be sent on application.

THE MEDUSA CONCRETE WATERPROOFING COMPANY, a subsidiary of THE SANDUSKY CEMENT COMPANY, has suits pending against the following companies for infringement of the MEDUSA WATERPROOFING PATENT:

Ceresit Waterproofing Co., Theodore F. Koch & Frank A. Mitchell, in the U. S. District Court, Seventh Circuit, Northern District of Illinois, Eastern Division.

Integral Waterproofing Co., W. J. Timberman, F. J. Phelan, et al., in the U. S. District Court, Southern District of New York.

Also against all important past users of McCormick Waterproofing.

Manufacturers of

The Sandusky Cement Company, Cleveland, Ohio

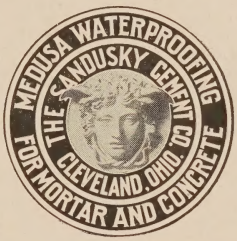
Medusa Gray and White Portland Cement (Plain and Waterproofed) and Medusa Waterproofing

Medusa Waterproofing

Made in Both Powder and Paste Forms

The Original Concrete Waterproofing of the Integral Type
Manufactured under Basic Patents
Beware of Imitations!

The most *Concentrated* material of its kind on the market. Does not affect strength, setting or color of cement or concrete. Prevents discoloration and efflorescence



For use in Cement Mortar, Cement Plaster, Stucco, Concrete Blocks (facing only), Concrete Pipe, Cement Shingles, Basement Walls and Floors, Grain Elevators and Storage, Cisterns, Silos, Tanks, Reservoirs, Swimming Pools and wherever Waterproof Concrete is necessary. : : : : : : : :

MANUFACTURED FOR

The Medusa Concrete Waterproofing Company

Assignees of Patents by

The Sandusky Cement Company

Cleveland, Ohio, U. S. A.

UNDER U. S. PATENTS TO

Liebold, No. 771,080, September 27, 1904
Liebold, Re-issue, No. 12,470, April 3, 1906
Liebold, No. 847,015, March 12, 1907
Newberry, No. 851,247, April 23, 1907
Barrett, No. 898,547, September 15, 1908

Medusa Waterproofing

Made in Both Powder and Paste Forms

MEDUSA has been on the market for a number of years and has been used in every part of the world under every condition and in every character of construction in which portland cement is used. The extraordinary success of Medusa Waterproofing has led to a host of imitations and infringements. Many compounds on the market contain no waterproofing substance whatever, and are absolute frauds. Permanent and thorough waterproofing effect can be secured only by the chemical combination of fatty acids with alkaline earth bases, and this principle is fully covered by our patents.

Description MEDUSA WATERPROOFING POWDER is a WATER-REPELLENT compound of FATTY ACIDS chemically combined with lime. Owing to its extreme fineness it may easily be mixed with cement in the necessary proportions.

Packages In cotton, paper lined, non-returnable sacks, containing 40 pounds each.

Description MEDUSA WATERPROOFING PASTE was perfected to meet a growing demand and preference among architects and cement users for a waterproofing which can be dissolved in the water to be used in mixing mortar or concrete. It is identical with the powder in resulting composition and waterproofing effect. The sole difference between the two is the greater convenience of mixing which the paste form offers, though if the mixing of the powder with the cement is thoroughly and carefully done, equally good results can be obtained with either form.

Packages MEDUSA WATERPROOFING PASTE is shipped in square cans, with large friction seal, of 1 gallon (8 lbs.) and 5 gallons (40 lbs.) each. These are packed for shipment in substantial crates of 6 one-gallon or 2 five-gallon cans each.

Samples A ½-pound can of MEDUSA WATERPROOFING PASTE or a 12-ounce package of MEDUSA WATERPROOFING POWDER will be sent free on request. On receipt of 50 cents we will forward, charges paid, a 3-pound sample of MEDUSA WATERPROOFING POWDER.

Directions for Use

Quantity MEDUSA WATERPROOFING POWDER. To render concrete or cement work impervious to water use Powder to the amount of 2% of the weight of cement (8 pounds to the barrel of cement).

Method of Mixing By Hand If a mechanical mixer is not used, add the powder directly to the dry cement and mix by hand until the powder is uniformly distributed throughout the cement. Then add the sand in the proper proportion as usual, and again mix dry thoroughly. To the dry mixture of cement and sand add the crushed stone and mix until a uniform batch has been secured. The above procedure differs in no respect from the thorough mixing recommended for all concrete, except by the addition of the powder and its dissemination throughout the cement. Care should be taken to add the water a little at a time in order to avoid flotation and washing about of the fine particles of waterproofing.

Mechanical Mixing Where a concrete mixer is employed the powder should be added directly to the cement at the hopper or on the loader. The time of mixing should be sufficient to ensure uniformity throughout the mass and should not be lessened with a view to increasing speed. The water should be added slowly to prevent flotation and washing about of the fine particles of waterproofing powder. The amount of water should be kept as low as conditions permit, a quaking consistency being most desirable.

Quantity MEDUSA WATERPROOFING PASTE. To render concrete or cement work impervious to water use the paste to the amount of 2% by weight of the cement (8 pounds to the barrel of cement).

Amount of Water The amount of water per cubic yard of concrete varies greatly with conditions. It theoretically requires only about 20 gallons of water to the barrel of cement to make 1:2 mortar or 1:2:4 concrete. This would be 30 gallons to the cubic yard. In actual practice, however, the quantity of water used may be 40 to 60 gallons or even more per cubic yard. The amount of Waterproofing added should therefore be in proportion to the cement or aggregates which go to make up the finished concrete.

The contractor who has blindly followed a specification for a given quantity of paste to a given quantity of **water** is apt to be grievously surprised when he receives a considerably larger bill for waterproofing than he had anticipated.

We therefore advise that the amount of water which a crew is using be determined, and the correct amount of waterproofing paste be added to the gauging water so that for each barrel of cement used, 1 gallon of paste (8 pounds) goes into the concrete.

Method of Mixing MEDUSA WATERPROOFING PASTE is to be dissolved in the water with which concrete or mortar is to be mixed. To obtain easy solution, use soft and slightly warm water. Hard water tends to precipitate the paste in a curdy form; the addition, however, of a slightly increased quantity of the paste will overcome this trouble. Cold water, below 60 degrees F., also dissolves the paste with difficulty.

To save time and labor in dissolving, empty the paste from the can into a pail or tub, add an equal volume of water, and stir thoroughly until a smooth cream is formed; then add this mixture to the balance of the water to be used.

It is a simple procedure for a man at the mixer to add for each barrel of cement one gallon (8 pounds) of waterproofing paste, diluted in a pail to at least 2 gallons of water.

A Word as to the Amount Needed

Though somewhat less than the quantity recommended may be used in many cases with excellent results, it has proved advisable in any structural work to have a reasonable factor of safety.

The need for such a factor of safety will be appreciated when the varying conditions affecting concrete work are considered. Specifications of proportions to be used in concrete mixtures vary considerably and so also do the aggregates selected.

It has been found that the quantity prescribed, 2% of the weight of cement (8 lbs. to the barrel), is the correct amount to be used. A reasonable factor of safety is included in this figure and we advise that this specification be rigidly maintained.

Use Medusa Waterproofing Because:

It causes concrete work to dry off immediately after a rain, avoiding the unsightly dark appearance which watersoaked concrete retains for hours.

It makes concrete basement walls, tanks, cisterns, mortar and all concrete work postively waterproof and dampproof.

It prevents the white efflorescence which renders cement work unsightly.

It aids in preventing the formation of shrinkage cracks.

Being sealed within the pores of the concrete and not subject to depreciation, the waterproofing effect is permanent. This statement can not justly be made regarding the ordinary membranes and coatings which are higher in first cost and expensive to maintain.

It adds very little to the cost of the concrete and needs no renewal.

Medusa **Is specified by the most eminent architects and engineers in the United States and Europe.**

The Theory of Waterproofing

To understand what Medusa Waterproofing does it is necessary to consider the physical nature of concrete. Being composed of irregularly shaped particles, it is impossible for the mass to be more than comparatively dense. Ordinary concrete, though possessing many points of excellence such as strength, resistance to wear and permanence, usually contains over 20% of voids, and it must accordingly be classed as a porous material. By the use of hydrated lime the pores may be to some extent filled, sufficient plasticity being acquired by this addition to give slightly greater density to the mass. Hydrated lime, however, cannot be classed as a waterproofing material since it absorbs water readily.

The force against which we have to contend, in order to reduce water absorption of concrete, is the capillary attraction exerted by these minute pores or tubes. This may be demonstrated by observing the action of a sheet of blotting paper of which one corner is dipped in water. The water will be drawn up in the sheet despite the force of gravity. The force used to overcome this absorptive tendency is the force of surface tension.

In order to waterproof concrete successfully, the ideal material is a finely divided, strongly water-repellent compound or a liquid paste which upon contact with the alkaline earth bases present in cement, forms a strongly water-repellent compound. It must possess the characteristic of forming a thin film, capable when properly supported, of holding back by surface tension and its own cohesion, the layer of water to which it is exposed. Such a material must be cheap and efficient enough to do the work when added to the cement in sufficiently small quantity not to affect the strength. It must be proof against oxidation and such chemical action as may be met with from the concrete or atmosphere. And last but not least, it must demonstrate in actual work that the concrete in which it is used is waterproof, even after a reasonably long period of time. Medusa Waterproofing fulfills these requirements and has proved thoroughly satisfactory on thousands of important pieces of construction.

The function of Medusa Waterproofing in concrete is shown by the following simple experiment:

Place a handful of the finely ground powder in a pile on the surface of water in a tumbler. Press one finger through the center of the pile down into the glass. A very thin film of the powder will completely surround the finger, as may be seen by looking through the transparent walls of the glass. The finger will remain perfectly dry.

In waterproofed concrete this film is of very minute thickness. The particles of cement, sand and stone fit together more or less closely, their weight being sufficient to force the waterproofing from between those of their surfaces which are in actual contact. The result is that a thin film is formed, bridging the pores. Upon being exposed to water-pressure this stretches and assumes the shape of the depression, forming a waterproof

film which prevents or reduces to a minimum the penetration of water and its absorption by the concrete.

Example of a test made on water absorption of blocks 1½″ x 3″ x 3″ of 1:2:4 concrete, wet mixture, laid flat in water, half immersed, with and without Medusa Waterproofing. Percentage of water used in making up samples was the same in each case.

This test was made with the idea of simulating the actual conditions of a concrete basement exposed to heavy rains.

Percentage Increase in Weight of Test Pieces
Water Absorption

	Time			
	1 hr.	2 hrs.	4 hrs.	24 hrs.
No Waterproofing	5.8	6.4	7.7	8.0
1% Medusa Waterproofing	1.1	1.3	1.5	2.3
2% Medusa Waterproofing	0.9	1.0	1.0	1.7

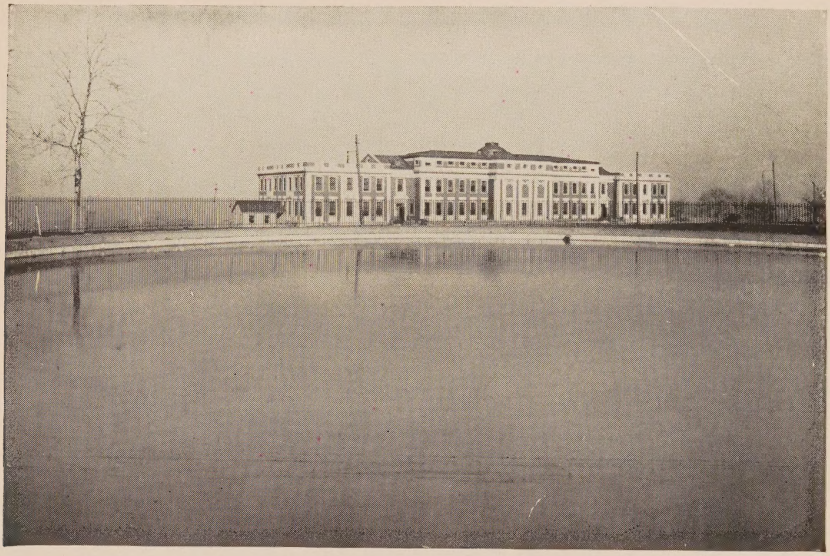
Shrinkage Cracks

Concrete, though probably the easiest and cheapest permanent structural material to place, is also the most abused. The most inexpensive, crude and untrained labor is employed, cement is often skimped, too much water is generally added, mixing is seldom completely uniform and **speed** instead of **quality** is made the goal to be attained.

One of the resulting defects in concrete which is due to imperfect construction is the Shrinkage Crack. These are usually a result of too rapid drying out of the concrete before the cement has had time to acquire its full strength. They ordinarily appear within the first week, as fine irregular hair lines, and by dashing a pail of water over recently constructed concrete, they may, if present, be quite easily seen. At first the cracks are very small and are mainly confined to the surface, where the shrinkage, due to evaporation, is greatest. They are most prevalent on the surface of thin layers of concrete such as stucco, etc. By careful construction shrinkage cracks may be minimized or entirely eliminated. Certain precautions which will be found of value in their prevention are as follows:

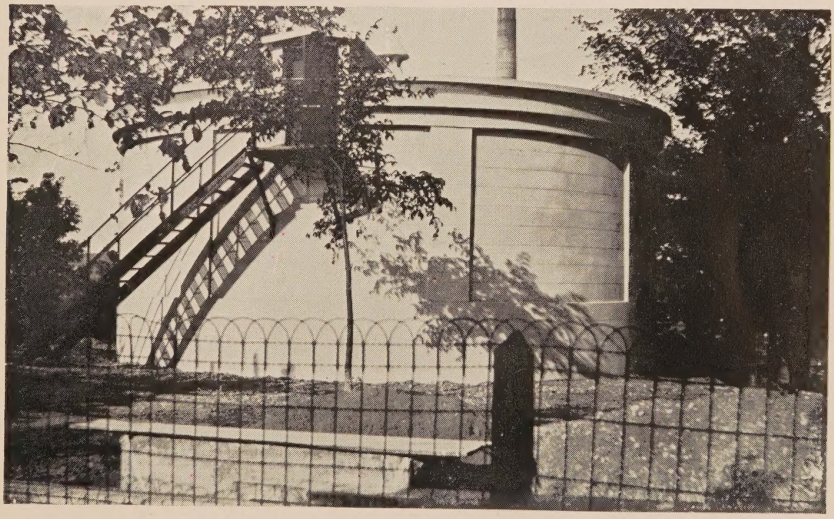
The base beneath the new concrete, stucco, or cement work, whether of cinders, clay, sand, brick, tile, etc., should be thoroughly soaked with water to prevent leaching out of moisture from the setting concrete. The finished concrete should be kept moist, steps being taken to prevent its drying out during the curing period even for a minute. It should be covered with a wet canvas, kept soaked with water for a period of a week or ten days.

Observance of these simple rules will greatly improve the strength of concrete, will prevent dusting floors and will guard against the possibility of leaky concrete walls, etc.



Nela Park Reinforced Concrete Reservoir, Cleveland, Ohio

120 feet in diameter, 11 ft. deep, 1,000,000 gallons capacity. Medusa Waterproofing used to prevent leakage.
The Austin Company, Cleveland, Builders Wallis & Goodwille, New York City, Architects



Reinforced Concrete Reservoir, New Ulm, Minnesota

Made watertight by the use of Medusa Waterproofing
F. D. Minium, City Engineer Circular Concrete Co., Minneapolis, Contractors

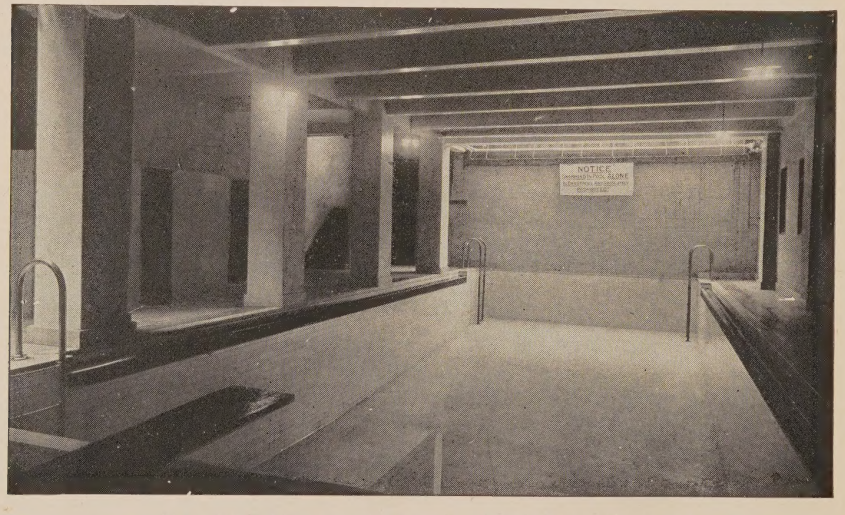
Y. M. C. A. Swimming Pools and Buildings

Basements Made Damp-proof and Pools Watertight with Medusa

Medusa Waterproofing is being specified and used by eminent architects and contractors in the construction of Y. M. C. A. buildings, for making concrete basement walls and floors damp-proof, and also for waterproofing the swimming pools, among which are those located at New London, Conn.; Central Falls, R. I.; Erie, Pa.; Wheeling, W. Va.; Staunton and Norfolk, Va.; Elyria, Ohio; Paris, Ky.; Atlanta, Ga.; Moline, Ill.; Eau Claire and Superior, Wis., and Kellogg, Idaho.

The Y. M. C. A. swimming pool, Wheeling, W. Va., is 20 feet by 40 feet, graded in depth from 5 to 7 feet, and the entire pool is lined with white tile and waterproofed with Medusa. Giesey & Faris were the architects.

Medusa Waterproofing was used for swimming pool of Y. M. C. A. building, Elyria, Ohio. Pool is 20 feet by 60 feet, and is lined with tile embedded in waterproofed cement. Medusa Waterproofing was also used for exterior walls below grade line to prevent dampness in the basement, the waterproofed cement plaster being applied one-half inch thick. Paul A. Rissmann was the architect, and The John Kaiser & Bro. Co., the contractors, both of Elyria.



Naval Y. M. C. A. Swimming Pool, Norfolk, Va.

In 1909 Medusa Waterproofing was used in the basement and swimming pool of Naval Y. M. C. A. building, Norfolk, Va. The basement is 6 feet below tide-water, and during these eight years has successfully withstood the high tides which are quite frequent in Norfolk. The work was examined a short time ago and we received a report that "it is absolutely waterproof and the results obtained in this building would certainly justify the use of Medusa Waterproofing for any work which is to withstand water pressure." Louis E. Jallade, New York City, was the architect.

Another Swimming Pool Made Watertight With Medusa

Y. W. C. A. Pool, Hartford, Conn.

60x23 ft., depth 4 to 6 ft. Tile faced pool, sidewalls and spillways. Medusa Waterproof Paste used throughout in mass concrete—one gallon (8 lbs.) to the barrel of cement.
Louis Jallade, Architect H. Wales Lime Co., Contractors

Absolutely Watertight After Five Years. Waterproofed with Medusa

City Park Municipal Bathing Pool, Toledo, Ohio

Similar Pools in Navarre and Riverside Parks. Medusa Waterproofing used in walk and floors eight years ago and no leaks have developed.
F. E. Wirebaugh, Engr. for Board of Park Commrs. Schillinger Bros. Co., Contractors

Fort Garry Hotel, Winnipeg, Manitoba, Canada

30,000 Pounds Medusa Waterproofing Powder Used

This hotel is of French architecture, fourteen stories high, absolutely fireproof, the steel work non-expansive, partitions of terra cotta, floors of marble, tile or cement, and stairways of metal. Indiana buff limestone extends from the base of Canadian gray granite to the copper roofing.

The floor of the rotunda is of marble inlaid with Belgian block, and the walls are finished in artificial Caen stone, which was also used on all wall surfaces of the palm room, cafe, main dining room and mezzanine floor to harmonize the entire ground floor.

Erected and completed under the direction of the architects for the Grand Trunk Railway System, Ross & Macdonald, Montreal; general contractor, the George A. Fuller Company.

Stops Basement Leaks

In the construction of this building, a treacherous stratum of water sand was encountered in the sub-basement excavation twenty-eight feet below the sidewalk level. **Water-tightness** in the concrete foundation walls was finally accomplished through the use of **Medusa Waterproofing** to the amount of 2% of the weight of cement used.

Pope-Whittemore Building, Cleveland, Ohio

Henry Bacon, Architect

Tidewater Bldg. Co., Contractors, New York

Apartment House, Washington, D. C.
Medusa Waterproofing used below ground level

Jos. J. Moebs, Consulting and Constructing Engineer, of Washington, D. C., the owner, architect and builder of this apartment house says:—"I take pleasure in assuring you that Medusa Waterproofing was used with excellent results, waterproofing walls below the ground level and elevator pent house."

National Bank of West Virginia

Medusa Has Withstood Floods for Years

Wheeling, W. Va., April 17, 1918.

"Relative to National Bank of W. Va., I beg to advise that your Medusa Waterproofing was used in basement walls and floors for making them impervious to water, as the building is in the flood district and will probably be subjected to flood pressure at least once a year. I have every reason to believe that it will be satisfactory, as I employed the same method and used Medusa Waterproofing in the basement of an eight-story reinforced concrete warehouse for W. A. Wilson & Sons in this city, which has successfully withstood floods for three years, and in the basement of the twelve-story Windsor Hotel, this city."

CHARLES W. BATES. Architect and Structural Engineer.

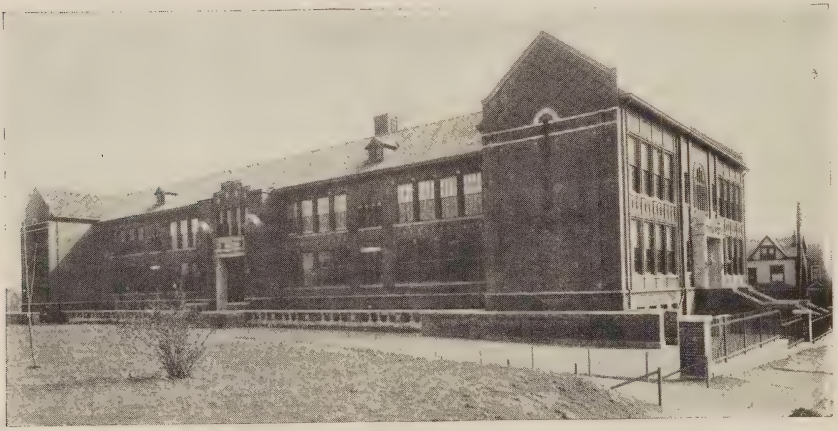
Medusa Waterproofing Will Prevent the Corrosion of Steel in Concrete

The following appeared under the caption of "Corrosion of Steel in Concrete" in Rock Products and Building Materials

"Speaking on this subject some time ago, Dr. W. H. Walker, director of the research laboratory of applied chemistry of the Massachusetts Institute of Technology, said that every engineer is well aware of the fact that acidulated water, no matter how small the percentage of acid may be, tends to corrode steel by increasing the number of hydrogen ions present. It had been made clear, from tests he carried out, that there were certain alkaline substances present in concrete which corrected any acidity, and so protected the contained metal work from corrosion.

"This fact has an important bearing upon the question whether concrete will protect iron or steel from corrosion. Inasmuch as portland cement, when it sets or hardens, liberates a quantity of caustic lime, which is a strong alkali, the answer to the question must be in the affirmative. Iron or steel will not corrode when embedded in good concrete. But caustic lime is soluble in water, and poorly made concrete is not impervious to moisture. Therefore, if iron be embedded in concrete through which water is allowed at any time to percolate, this calcium hydrate will be slowly but surely dissolved. With it will disappear the inhibiting action of the concrete; and iron embedded therein will, in time, rust and become corroded. To ensure absolute protection of the reinforcing members of concrete construction, therefore, such concrete must be of good quality and sufficiently dense and carefully made to render it waterproof."

Medusa Waterproofing Used to Preserve Metal Reinforcement



The Dilworth Public School Building is one of the largest in the district. 1,500 pounds of Medusa Waterproofing were used by the contractors and builders who advise as follows:

Pittsburgh, Pa., April 20, 1918.

The Sandusky Cement Co.,
Cleveland, Ohio.

Gentlemen:

We built the Dilworth School and used considerable Medusa Waterproofing in roof fill to keep the moisture from the metal reinforcement. We used the material in accordance with your directions and found the same very satisfactory. This building cost about $230,000.

Yours very truly,
DAWSON CONSTRUCTION COMPANY,
L. V. Dawson, President.

Mt. Sinai, the New Jewish Hospital, Cleveland, Ohio

A Well Appointed Hospital In a Beautiful Location

George B. Post & Sons, Architects

Reaugh Construction Co., Contractors

The new Jewish Hospital, located facing Wade Park on East 105th Street, Cleveland, Ohio, for which Geo. B. Post & Sons, New York, were the architects, was built at a cost of $410,000. The architectural style adopted is that of the English Renaissance of the Georgian period. A wire-cut brick of general grayish pink, with unusually great variations of color, was selected, and was laid with a wide joint in old English bond, with black headers. A base of granite is surmounted by a ground floor treatment in Indiana limestone, above which are walls of brick trimmed with limestone on the first story of the main building, and terra cotta matching the limestone above this, and including the cornice and the trims of the other buildings.

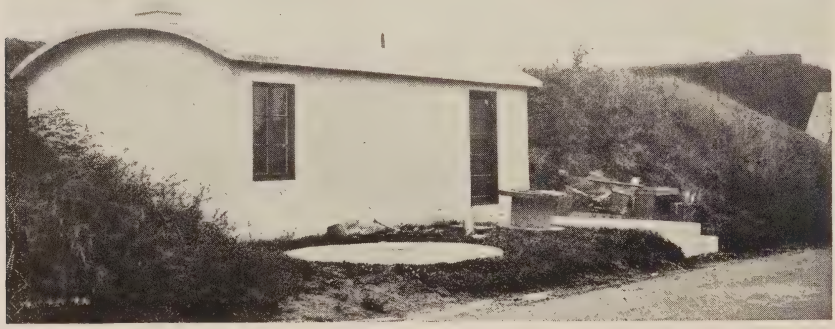
In modern hospital buildings dry basement walls and floors are a feature, and in the construction of "Mt. Sinai" the Reaugh Construction Co., Cleveland, general contractors, used Medusa Waterproofing for this purpose.

United States Government Structures

With the adoption of Medusa Waterproofing by the U. S. Government, this material has an enviable reputation, and architects, engineers and contractors should have no hesitancy in specifying and using it. Morris E. Payne, Engineer (American Forces Overseas), says:

"I am very glad to testify as to the quality of Medusa Waterproofing. I have had occasion to use quite a lot of your material and have found it to be equal to its manufacturer's guarantee.

"While in the employ of the Goverment I used large quantities in connection with the erection of a great many artillery fire-control structures, such as fire-control observing stations, signal corps switchboard rooms, power plant for searchlights, searchlight shelters and battle commanders' stations. Most of these buildings were constructed of expanded metal on light steel frames, the expanded metal being plastered with cement, waterproofed with Medusa Waterproofing, on both sides. The buildings are concealed by earthwork to some extent, but at the same time are subjected to severe storms. I do not know of a single instance where any trouble was encountered after using your product."



Signal Corps Switchboard Room

Medusa also proved successful in the following Government work, much of which has been subjected for a number of years to severe tests by the rise and fall of tide, ice floes, sun exposure or action of salt water:

Sept., 1918. American University Experimental Station, Washington, D. C.

Sept., 1918. 2000 pounds powder, 4000 pounds paste, U. S. A. Telephone & Telegraph Building for War and Naval Dept., at 1723 Front St., N. W., Washington, D. C., and three others.

June, 1918. 16,750 pounds powder used by the constructing quartermaster at Camp Wadsworth, Spartansburg, S. C.

June, 1918. 3984 pounds paste used by the Supply officer of Naval Yard on Lower Proving Ground, Indian Head, Maryland.

Oct., 1918. 2000 pounds powder used by the U. S. Constructing Quartermaster at Brunswick, Ga.
Nov., 1918. 2000 pounds powder used by U. S. Supply Officer at Portsmouth, Va., Naval Yard.
Nov., 1918. 100 pounds powder Quartermaster Culver Military Academy, Culver, Ind.
Sept., 1919. 3400 pounds powder Commanding Officer, Rock Island Arsenal, Rock Island, Ill.
Newport Concrete Float, government landing at Torpedo Station.
Charleston, South Carolina, Navy Yard for general purposes.
South Boston, Quartermaster Terminal.
New London Concrete Experimental Tank.
Compressed Air Stations, 2nd Army District, Hog Island.
Frankford Arsenal, general purposes.
Navy Yards, Washington, D. C.
Navy Yards, Philadelphia, Pa.
Navy Yards, Norfolk, Va.
Also Fisher's Island, N. Y., Fort Wright.
Swimming Pool, Ft. Lee, Va.

Immense Concrete Reservoir in England

Made Permanently Watertight in 1912 with Medusa Waterproofing

This big concrete job was commenced in May, 1910, and completed in June, 1912. The average dimensions of the reservoir are: Length 182 feet; width 165 feet; depth of water 13½ feet; thickness of walls about 4 feet; thickness of floor about 12 inches; thickness of roof 6 inches. The roof is carried by reinforced beams supported by reinforced concrete pillars 12 inches square.

This massive reservoir is entirely of concrete, has a capacity of 2,500,000 gallons, and is used for the purpose of supplying water to a district of the Borough. It is built on a high elevation, and was designed and constructed by direct labor in the Borough and Water Engineers' Department. The whole of the interior walls and floor are finished with a one-inch coat of portland cement plaster containing 2% Medusa Waterproofing.

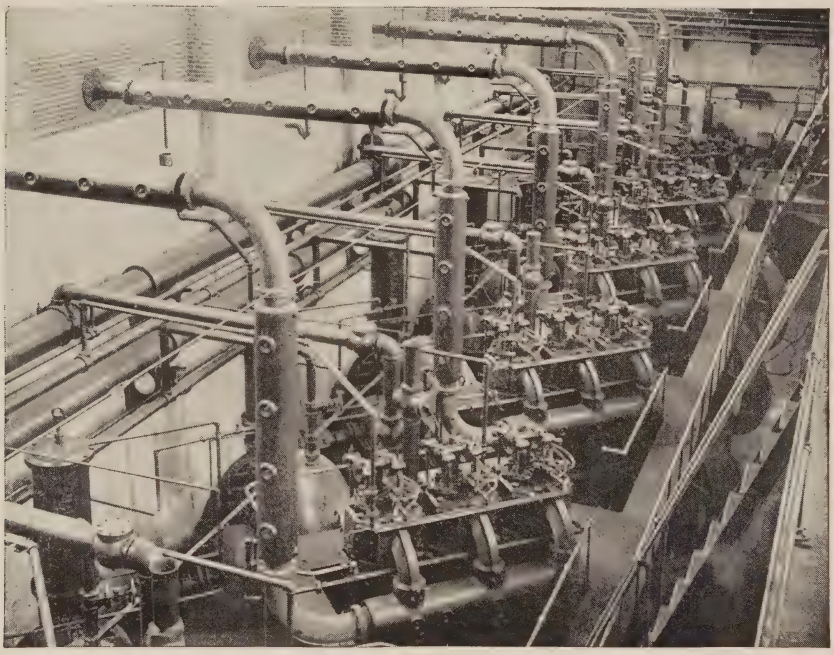
The work was completed eight years ago, and Arthur Race, Borough Engineer, says the results obtained with Medusa Waterproofing are very satisfactory.

Medusa Waterproofing Used Extensively in England

Medusa has been used by the Admiralty, War Office, Horseguard's Office of Works, Indian Office, Woolwich Arsenal, Record Office for Bank of England, New Zealand and Queensland Governments. Also for King's House at Jamaica; Royal Naval College, Greenwich; H. M. Dockyard, Portsmouth; General Post Office, London; and by hundreds of architects, engineers, general contractors, builders and decorators throughout all of England, the British Isles and the British Colonies.

Pumping Station Under Heavy Water Pressure for Nine Years

Made Permanently Dry with Medusa Waterproofing



The pumping station of the East St. Louis outlet sewer was completed during the year 1911, and the contractors on the work used Medusa Waterproofing, which has given complete satisfaction.

The foundations for this pumping station are 125′x25′. Height from lowest elevation to top of foundation 26′, walls are 36″ thick at bottom, 20″ at top, floors about 7′ thick. It was necessary to have floors this heavy on account of 36″ suction pipe for pumps being embedded in them. The sides of this foundation are reinforced by a sheet steel shell. The bottom does not contain any reinforcing material.

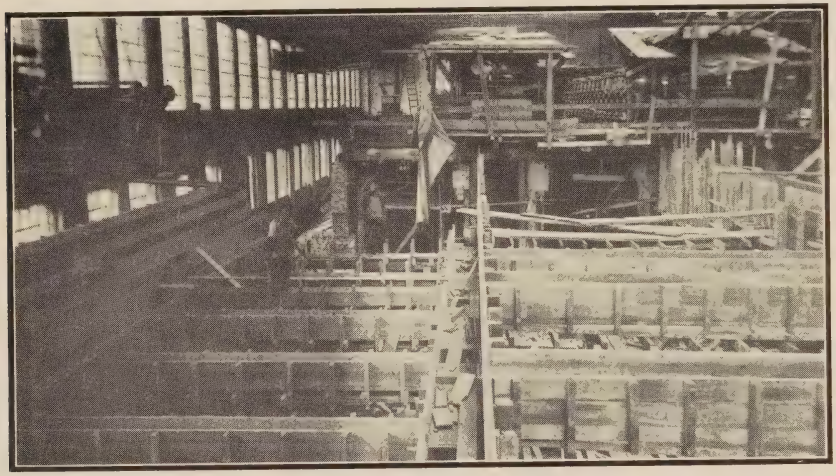
The foundation supports the weight of five 290 H. P. engines directly connected to 48″ centrifugal pumps, two 190 H. P. engines directly connected to 36″ centrifugal pumps, and all appurtenances, the total weight exceeding 200 tons.

During the nine years that this station has been in operation there has been no leakage through the floors or walls of this foundation, although the Mississippi River has, at times, been fifteen feet higher than the lowest elevation.

Oscar Stankey, Engineer in Charge, says: "I consider this a supreme test of the efficiency of your Medusa Waterproofing, and cheerfully bear witness to the satisfactory results obtained by the use of it in this pumping station."

"More Than Satisfactory and Most Economical Waterproofing"

Noted Engineer Lauds Medusa and Guarantees Waterproof Work



The plant of the Combined Locks Paper Co., Combined Locks, Wisconsin, manufacturers of printing paper, is 290 ft. long by 171 ft. wide, and two stories high. Part of the main floor is used for storage and contains approximately 3,000 tons of paper.

Worden-Allen Company, Chicago, Illinois, were the general contractors, who with J. B. Purves, Mechanical Engineer of the Combined Locks Paper Co., did the designing. The statement of Harry Lafayette, Construction Engineer, Worden-Allen Company, is of interest to engineers and architects:

"I consider this one of the greatest engineering feats attempted in recent years. * * * I used Medusa Waterproofing for floors, machine pits, scale pits, elevator pits and in some instances in connecting new work to the old, and in all cases your material was more than satisfactory and the results were excellent.

"It is not necessary for me to make any statements about this work as it shows for itself just what it is. I will further state that I have been a user of compounds for concrete for a number of years and I can prove by my past work that Medusa is the first, last and always the most economical of all.

"I will be willing at any time to furnish information to anyone needing it, or will take over any waterproofing problems and guarantee the results."

United States Glue Company's Reservoir, Carrollville, Wisconsin

Herman J. Esser, Architect

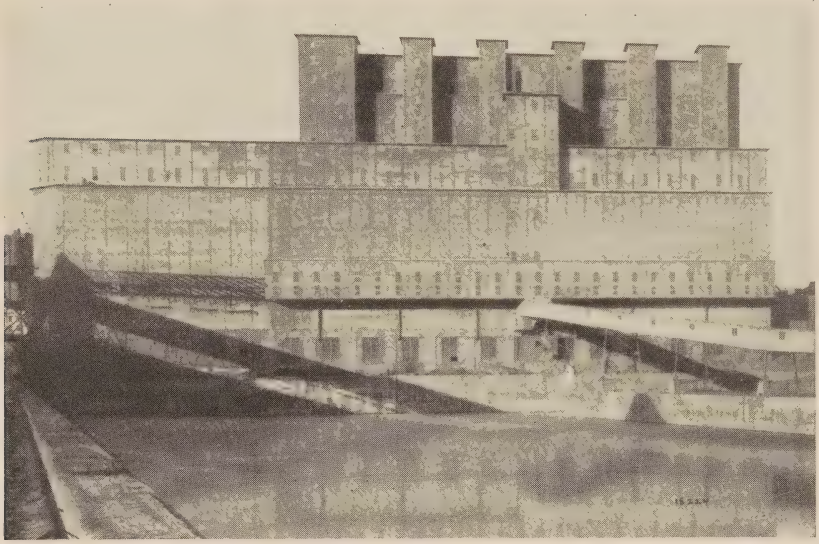
Medusa Waterproofing made this reservoir absolutely watertight, showing no leakage or seepage. Architect, engineer and owner praise Medusa for excellent results secured.

Concrete Tank, Plankington Packing Co., Milwaukee, Wisconsin

H. Schmitt & Son, General Contractors and Builders

In perfect condition and watertight after five years of service. The general contractors say: "We will use Medusa Waterproofing any time a waterproof job is required."

30,000 lbs. Medusa Waterproofing Used to Dampproof this Structure



Harbor Commissioners' Grain Elevator No. 2, Montreal, Quebec

This is one of the largest reinforced concrete grain elevators in the world. The entire structure, including first story bins is of concrete. Even in the cupola, the columns, beams, floors and roof are of this material, making it absolutely fireproof, and 30,000 lbs. of Medusa Waterproofing were used to make the work impervious to water and dampness. John S. Metcalf Co., Limited, were the construction engineers.

Corn and Oats Conserved by Eliminating Dampness

Grain Storage is Perfectly Dry

The Sandusky Cement Co., Dunkirk, Indiana, August 31, 1918.
Cleveland, Ohio.

Gentlemen:

We used Medusa Waterproofing in the basement of our grain elevators, and our corn and oats bins extend to the very bottom of the basement.

For the past two years we have stored oats at harvest time, which remained in the bins until the following spring. Not a single oat was spoiled.

In the corn bins and cribs, where the corn is on the cement bottom in which Medusa Waterproofing was used, we never lose an ear of corn.

Would like to send you a photo, but the place where we used the waterproofing so satisfactorily is 9 feet under one driveway in our grain elevator, and the basement of our corn cribs is just at the side of the dumps. The only way we could get a picture would be by using a flash light, and with $40.000 worth of wheat stored above we do not care to take the risk, much as we would like to please you.

Medusa Waterproofing deserves great credit, for it certainly is giving perfect satisfaction. We know of nothing superior.

Yours respectfully,
W. L. SKINNER GRAIN CO.

Pumping Stations and Disposal Plant, Warren, R. I.
Medusa Waterproofing 12 Feet Below High Tide
Gives Damp Proof and Impervious Walls

West Wall of Disposal Plant

Providence, R. I., April 28, 1918.

The Sandusky Cement Co.,
Cleveland, Ohio.

Gentlemen:

I have used Medusa Waterproofing in all the reinforced concrete for the Disposal Plant and Pumping Stations at Warren, R. I., with very satisfactory results.

The tanks and pumping stations are located near the water's edge and some twelve feet below high tide. The ground is marshy and wet, but the walls have proved to be dry and impervious to moisture as the result of using your Waterproofing.

Yours very truly,

CHARLES F. CHASE,
Consulting Engineer.

Medusa Waterproofing Stops Leakage of Thirty Years

Recommended for Power Dams, Reservoirs, Lake and River Work

Gisholt Machine Company's Plant, Madison, Wisconsin

Medusa Waterproofing has the distinction of having the endorsement of many nationally prominent engineers and contractors, among them the Worden-Allen Company, Chicago, Illinos. They were the contractors for plants of the French Battery & Carbon Company and Gisholt Machine Company, Madison, Wisconsin.

Medusa Waterproofing was used with great satisfaction for all toilets in the former, and for floors and tunnel under the street and in other places subject to dampness, in the latter.

Engineers particularly will be interested in the following from Harry Lafayette, Construction Engineer, Worden-Allen Company and Lackawanna Bridge Company, Chicago:

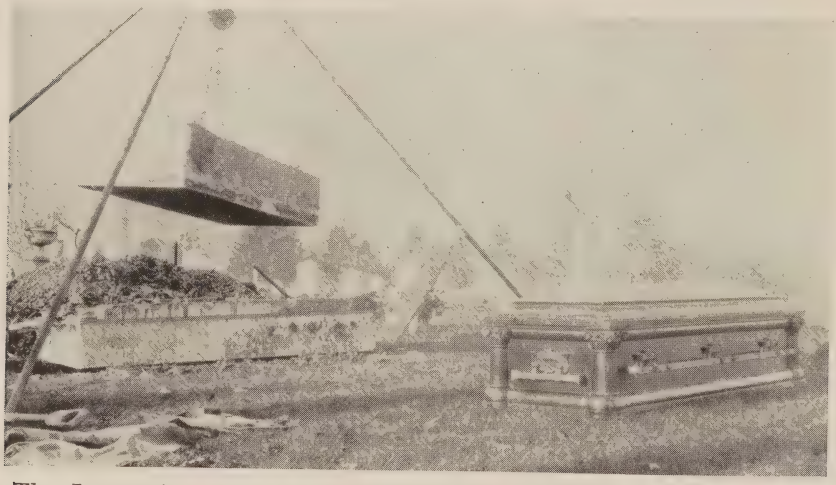
"I have been a constant user of Medusa Waterproofing for a period of ten years, and it has always given absolute satisfaction.

"Medusa Waterproofing, to my mind, is superior to anything on the market for waterproofing purposes. I have, in many cases, stopped leakage in elevator and scale pits, tunnels and basements, in some instances where they had been leaking for thirty years.

"We particularly recommend the use of Medusa when applied according to the manufacturer's directions, especially where high water pressure is encountered as in power dams, reservoirs, lake and river work."

A Burial Case that Defies all Action of the Elements

This Casket was in the Ground Several Years



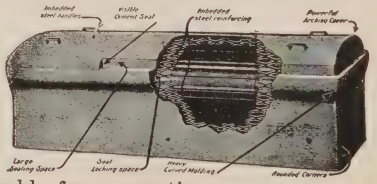
The Impervious Burial Case & Mold Co., Tiffin, Ohio, patentees and manufacturers of adjustable molds for making burial vaults, in justification of our claims for Medusa Waterproofing, write as follows:

"This view shows the disinterment of one of our Impervious burial cases, made of Medusa Waterproofed Gray Portland Cement. It was buried in a heavy, clay soil in a very wet place in the cemetery.

"After being in the ground several years, it was disinterred and the casket was shipped over 200 miles. Everything was in perfect condition and perfectly dry inside. The varnish on the casket was not even discolored, which the photograph verifies. We consider this a very good test."

400 Burial Vault Manufacturers Use Medusa Waterproofing

As the rough-box, brick, slate or steel vaults are only temporary in duration and do not afford permanent protection to the casket and contents, the cement burial vault is constantly increasing in favor, and that of The Norwalk Vault Co., Norwalk, Ohio, is the highest ideal in burial receptacles—absolutely impervious to the effect of the elements and will not decay or disintegrate.



The body and lid are reinforced with expanded metal, and the portland cement used is waterproofed with Medusa. After the lid has been placed in position it is sealed with a special sealing cement, which makes the job a one-piece vault of solid cement, positively waterproof and durable for generations.

The Norwalk Vault Co., the parent company, and their 400 subsidiaries in the United States and Canada, use Medusa Waterproofing in the manufacture of these vaults.

In Perfect Condition After Months in a Wet Grave

This is Why We Urge You to Use Medusa for Burial Vaults
Severe Tests Prove Its Waterproofing Efficiency. Preserve Your Dead

The vault shown here had been buried at Vancouver, B. C., for a number of months in a wet grave and when lifted was covered with mud and water. On removing the cover, the inside was found to be absolutely dry, without the least sign of moisture. Not even the paint was discolored. The casket, a cloth covered one, was as bright as the day it was interred. **On exposing the remains, they were found to be in a perfect state of preservation.** The vault, casket and remains were shipped to Tacoma, Wash., where they were finally reinterred.

The Sandusky Cement Co., Detroit, Mich., July 15, 1918.

Gentlemen:

In regard to Medusa for waterproofing our burial vaults, beg to say that we have used it for the past five years or more and it has given such entire satisfaction that we would not take a chance on any other brand of waterproofing.

We have lifted over seven of our vaults after having been buried from two to three years, and in every instance the vault was perfectly dry and *the remains and casket in perfect condition.*

To prove to you that this is the truth I enclose a circular illustrating a lifting, in which the vault was in the ground over two years—in wet ground, too. As you will see by the cut, the casket was as bright as the day it was interred. Vault was perfectly dry. *Remains were as perfect as the day buried, and they were shipped to Tacoma, where another funeral was held.*

We had another case equally as remarkable. This vault was buried three years. Lifted in mud. Vault perfectly dry, and remains shipped to Toronto, where a large funeral was held.

We have tested out more than a dozen kinds of waterproofing, of the best American and English makes, but there is none that will compare with Medusa. *We know* from actual experience—no guess work. You can bank your last dollar on Medusa for waterproofing purposes.

Yours very truly,
THE NATIONAL VAULT CO., Eugene R. Chandler.

Concrete Block Manufacturers Should Use Medusa Waterproofing

WATERPROOFING

From a paper by Robt. F. Havlik, M. E.

In speaking of waterproofing, I tread on dangerous ground. Regardless of what can be said of monolithic concrete, I am of the firm belief that concrete building products such as block and trim should all be waterproof, so they will absorb little or no water. It has been contended frequently that they can be made waterproof without the use of a waterproofing. I have had considerable experience along this line, but have failed to make a waterproof block without the use of a waterproofing, regardless of how wet I made the facing. I contend that concrete building products should dry in a few hours after a severe rain, and no product made without a waterproofing will do this.

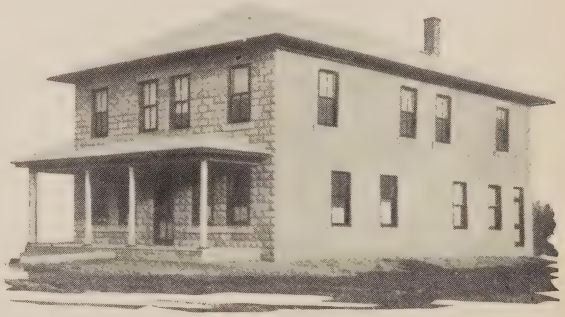
I know that block can be made waterproof, without waterproofing, to such an extent that moisture would not affect the interior of the building, but that is not sufficient, for such blocks retain moisture in the face entirely too long. I personally would not live in a house made of concrete block which retained moisture in the face for two days or more after a severe rain. It is this very feature that creates the general impression that concrete products are not waterproof, and for that reason alone, if for no other, a reliable waterproofing should be used to prevent it.

The great majority of waterproofings now on the market are unreliable, but there are a few that are very good. Much of the adverse criticism of waterproofings is due to laboratory tests made on small specimens, perhaps 2″ cubes. Such tests are unreliable, as I know from personal experience. I believe that with any waterproofing a sufficient amount of water must be used to show a little moisture on the surface of the product when made, or else it will not be waterproof. Another precaution that must be taken is to tamp the concrete very thoroughly. It is impossible to do this in small laboratory specimens, and that is why they seldom prove favorable to the waterproofing.

Amusement Hall and General Store, Bay Bridge, O.

Solid Concrete Blocks Waterproofed with Medusa Waterproofing

The mix used was a 1 to 4 cement and crushed limestone with 2% Medusa Waterproofing added to the ¾-inch facing. There had been considerable doubt about getting a damp-proof building by using solid blocks, but Medusa Waterproofing solved the problem very satisfactorily. This building has been perfectly dry for six years.



Blocks were laid in a waterproofed cement mortar.

Concrete Blocks that are a Credit to the Industry

Medusa Waterproofing in the Facing is Extremely Effective and Economical

Home of Mrs. F. W. Baker, Blanchardville, Wis.
Always dry and of uniform color

Superintendent's House, Sandusky Cement Co., Bay Bridge, O.

Concrete Block Residence, Bay Bridge, Ohio, built by the Sandusky Cement Co., for the superintendent of their Ohio plant. Waterproof and dampproof after nearly twenty years.

Medusa Waterproofed Cement used in the facing of all concrete blocks, in the concrete basement walls and floors of this residence by firm well qualified to judge of its value.

Plastering applied directly to the surface of the blocks in interior, without furring or lathing.

Medusa Waterproofing in facing of blocks

Cement Products Containing Medusa Waterproofing

Rain Acts as a Wash Instead of Water-soaking the Surface

Shoup & Jones, Lincoln, Ill., who manufacture building blocks, porch pier blocks, columns, lattice work, lintels and sills, flower vases, birds' bathing basins, well covers, roofing tile, fence posts, water troughs, grave markers, drain tile, and almost anything that can be made of concrete, advises as follows:—"We have been using Medusa Waterproofing in our work for several years and find it to be all you claim for it. It certainly is what its name implies—waterproof."

The Sandusky Cement Co., Oxford, Indiana, Aug. 18, 1918.
Cleveland, Ohio.

Gentlemen:

I have been using Medusa Waterproofing for several years and consider it the only method to employ in making concrete burial vaults waterproof. I buried a vault, waterproofed with Medusa, and kept ground around it soaked with water for a month, after which it was opened and found to be perfectly dry.

I have also used it in facing concrete blocks, and block buildings erected five years ago dry off and blocks are of as uniform a color after a rain today as when built.

Very truly yours,
STEEN SWADLEY,
(Manfr. Concrete Burial Vaults and Cement Products.)

The Sandusky Cement Co., Fall River, Mass., May 22, 1918.
Cleveland, Ohio.

Gentlemen:

I used Medusa Waterproofing on basement of Birch Building, Fall River, which is below level of the river, and obtained excellent results.

Yours very truly,
EDWARD M. CORBETT.
(Civil Engr. and Land Surveyor.)

5,000,000 Concrete Blocks Waterproofed with Medusa

The Sandusky Cement Co., Chicago, Ill., Oct. 30, 1918.
Cleveland, Ohio.

Gentlemen:

We have used Medusa Waterproofing for more than eight years in more than five million cement blocks, and the fact that we are still using it surely shows our confidence and satisfaction.

Yours very truly,
CALUMET CONCRETE CONSTRUCTION CO.

Medusa Adopted for Federal and Public Buildings

The Sandusky Cement Co., Charlottesville, Va., Oct. 15, 1918.
Cleveland, Ohio.

Gentlemen:

In connection with your Medusa Waterproofing and Medusa White Portland Cement, it is almost impossible to say how many buildings we have used them in, but practically all we have erected, including post offices, court houses, city halls, hospitals, and large commercial buildings. This applies particularly to federal work, of which we make a specialty.

In no single instance have the architects, owners, or ourselves been able to find fault with your cement or waterproofing. We consider them in a class by themselves, and while there may be others, to our personal knowledge, we know of none that compares with them.

Yours very truly,
KING LUMBER CO.,
(General Contractors and Builders.)

Standard Oil Company Uses Medusa Waterproofing for Basement

Successfully Waterproofed Below River Level

See page thirty.

The Sandusky Cement Co., Fond du Lac, Wisc., Oct. 22, 1918.
Cleveland, Ohio.

Gentlemen:

In the construction of warehouse for the Standard Oil Co., we had considerable difficulty on account of this building being erected near the river bed. We had to contend with a good deal of water as the floor and walls of the furnace room are 4′ 6″ lower than the river level. By using Medusa Waterproofed Cement we have been able to give these people a first-class waterproof job.

We have used this material in the past four years for cisterns, etc., and to our knowledge have found it to be as good a waterproofing as there is on the market.

Yours very truly,
THE HUTTER CONSTRUCTION CO.

Contractors Had to Guarantee Watertight Swimming Pools

Used Medusa Waterproofing for Positive Results

The Sandusky Cement Co., Galesburg, Illinois, March 15, 1918.
Cleveland, Ohio.

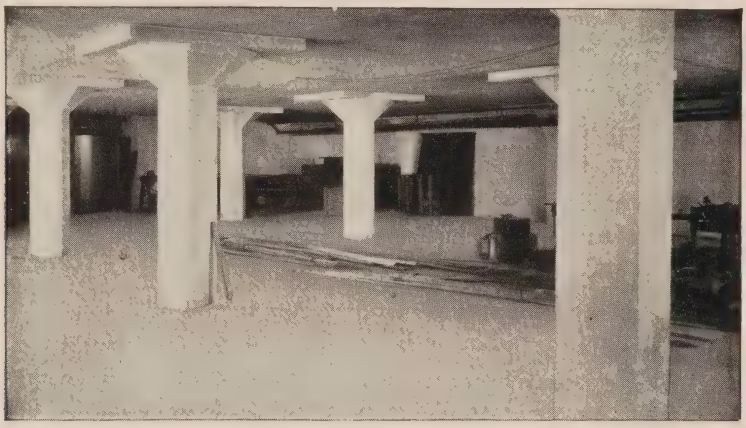
Gentlemen:

In reference to waterproofing used in the High School Gymnasium, this city, will say that the architect did not specify Medusa Waterproofing, but since we had to guarantee the work, we took the liberty of using it as we knew, absolutely, that this material would be good. Medusa Waterproofing was used as per the manufacturer's specifications, integrally with the concrete, in both of the swimming pools, and the result is very satisfactory.

Yours very truly,
MONMOUTH-GALESBURG CONSTRUCTION CO.

What Medusa Waterproofing Will Do in Basement Work at Low Cost

Grocery and Meat Departments Perfectly Dry Below Lake and Sewer Level



The Sandusky Cement Co.,
Cleveland, Ohio.

Wausau, Wis., April 16, 1918.

Gentlemen:

The Treleven Building, Fon du Lac, Wisconsin, is a large reinforced concrete department store building, the basement of which is being used for the grocery and meat departments. For this building we specified waterproofing composed of felts and waterproofing cement. However, we were unable to do this as we could not excavate beyond the street line and consequently could not apply same. We therefore began looking for a waterproofing compound which we could mix with the cement and which might give satisfactory results.

I wish to state that the results obtained have been satisfactory beyond my expectation. Our basement floor is below the level of Lake Winnebago and also below the sewer line and the soil is a clay constantly saturated with water below this lake level. We used Medusa Waterproofed Cement in walls and basement floor.

We had very severe continuous rains during the summer and the water stood against walls to top of grade for about three weeks, which was a good test, and we can strike a match on any portion of inside basement walls as no moisture comes through them. The owner and contractor are very much pleased with the results obtained, especially so since it was the general opinion in Fon du Lac that you could not get a dry basement in the city by going below the lake level. No doubt there will now be a great many more basements used for commercial purposes in Fond du Lac.

On account of the results obtained in this building, I specified your Medusa Waterproofed Cement on the large wholesale grocery warehouse for Mr. C. E. Blodgett, Marshfield, Wisconsin. The owner informed me that he wanted an absolutely dry basement and I did not hesitate in specifying your materials. Another point which pleases us very much is that the expense in waterproofing with your Medusa Waterproofed Cement is very nominal.

Assuring you that the results obtained with your materials have been beyond my expectations, I beg to remain,

Yours very truly,

H. T. LIEBERT, Architect.

The Hutter Construction Company, Fond du Lac, were the general contractors for this work, and they, too, are very enthusiastic over the success they have had with Medusa Waterproofing. See their letter on page 29.

Perfect Stucco, Free from Moisture and Dampness

Residence of John E. Reid, Wheeling, West Virginia
Exterior Finish of Medusa Waterproofing and Medusa White Cement
C. W. Bates, Architect — Wm. C. Baughman, Contractor

F. T. Blake Residence, Worcester, Massachusetts
Medusa Waterproofed White Portland Cement Exterior on Hollow Tile
L. W. Briggs Co., Architects — Faucher Bros. & Co., Plastering Contractors

Water from Springs was Stopped With Medusa

A Testimonial From an Authority on the Testing of Cement, Concrete and Other Structural Materials

Pittsburgh Testing Laboratory Building, Pittsburgh, Pa.

O. M. Tropp, Architect — James L. Stuart, Constructing Engineer

This is what A. R. Ellis, Assistant General Manager, Pittsburgh Testing Laboratory, Engineers and Chemists, Pittsburgh, has to report about their experience with Medusa Waterproofing:

"It gives us pleasure to say that in the construction of our building, Medusa Waterproofing was used in the basement, and effectually stopped several springs, which otherwise might have kept our basement damp."

One of World's Largest Union Passenger Stations

15000 pounds of Medusa Waterproofing used in retaining wall

Union Station, Kansas City, Missouri

Jarvis Hunt, Chicago, Architect — The George A. Fuller Constr. Co., Contractors

A perfect architectural creation of Bedford stone and gray granite on the exterior, and stone, marble and tile inside, the new Union Station, Kansas City, Missouri. is exceeded in size only by the great terminals in New York City.

The main building is 150 feet wide and 510 feet long, costing about $6,000,000, while the total cost, including land, approaches, new belt line, etc., represents over $50,000,000. The train sheds covering the tracks, 30 feet below the waiting room floor, are 1400 feet long.

The figures are not startling when the great volume of business is realized. 26 trains leave and arrive every day; 28,000 passengers are carried in and out of the city daily; 530 tons of mail are handled every day; 7,000 pieces of baggage are handled daily. Kansas City handles in and out 2,000 cars of freight daily.

In the construction of the retaining wall south of the plaza in front of the station, 15,000 pounds Medusa Waterproofing were used. This wall faced up the natural formation of rock where it was possible to use forms for the concrete on the outside face only. This rock was stratified and more or less water came down through the layers. Medusa Waterproofing was used by George A. Fuller Construction Co., Edgar S. Belden, Engineer in Charge, and it has kept the water back and proved very satisfactory.

Convincing Proof of Permanency of Medusa Waterproofing

After 15 Years, Results Unchanged

The Sandusky Cement Co.,
Cleveland, Ohio.

Ironton, Ohio, August 18, 1905.

Gentlemen:

We used your Medusa Waterproofing to waterproof a 100,000 gallon concrete tank and found it to be entirely satisfactory, at least the tank has not leaked a drop since we used it in the plaster, with which we plastered the tank. Very truly yours,

THE IRONTON PORTLAND CEMENT CO.

The Sandusky Cement Co.,
Cleveland, Ohio.

Ironton, Ohio, May 2, 1918.

Gentlemen:

In regard to Medusa Waterproofing used by us in concrete tank several years ago, will say that we have had this tank in service now about 13 years, and up to date we have never noticed any leaks whatever. We have been very well satisfied with the result obtained from the use of your Medusa Waterproofing.

Very truly yours,
THE IRONTON PORTLAND CEMENT CO.,
By A. C. Steece, Treas. and Gen. Mgr.

Basement Waterproofed with Medusa Used for Flour Storage

W. L. Macatee & Sons,
Houston, Texas.

Houston, Texas, April 23, 1918.

Gentlemen:

Relative to Medusa Waterproofing, you are advised that this company has used a great deal of this material with good success. We used it for waterproofing basement in the National Biscuit Company's factory in this city and beg to say that we have never had any trouble with this basement, notwithstanding the fact that it is very deep and must be maintained absolutely dry, as it is used for the storage of flour.

Yours very truly,
THE AMERICAN CONSTRUCTION COMPANY.

Medusa Waterproofing Gives Perfect and Permanent Results

Used Under Heavy Water Pressure

Eleven Years after completion of the sinking and lining with concrete, of a 6-foot well 80 feet deep in water bearing soil, we received the following:

The Sandusky Cement Co.,
Cleveland, Ohio.

East Alton, Ill., April 16, 1918.

Gentlemen:

We note you desire some information regarding the condition of the shot tower well which we put in, using Medusa for waterproofing purposes.

The work is in the same condition as when it was finished and has not given us any trouble whatever since the completion.

We do not see but that the result is practically as perfect as is possible, as there is no water passing through the concrete walls which are submerged for a depth of something like forty feet.

Yours truly,
EQUITABLE POWDER MFG. CO.,
F. W. Olin, President.

What Dealers Think of Medusa Waterproofing

The Sandusky Cement Co., Sycamore, Illinois, July 3, 1918.
Cleveland, Ohio.
Gentlemen:

We have sold and used Medusa Waterproofing personally for a great many years, and have always found it satisfactory. We have used this in cellar walls, for relining cellar walls and for elevator boots and general foundation work, with great satisfaction and it always produced the desired result if used correctly; in fact, we have never found anything else that was satisfactory. Yours very truly,

HOLCOMB BROS.

The Sandusky Cement Co., Boston, Mass., October 22, 1918.
Cleveland, Ohio.
Gentlemen:

We have yours of the 10th instant, saying you are about to publish a new Medusa Waterproofing catalog and asking for a testimonial, and beg to say the best testimonial we can give you is an order. We are enclosing an order for 12,000 lbs., to be shipped as soon as possible. Yours very truly,

WALDO BROTHERS, INC.

The Sandusky Cement Co., Wheeling, W. Va., October 14, 1918.
Cleveland, Ohio.
Gentlemen:

Nearly ten years ago we purchased from you our first order of Medusa Waterproofing. Since that time we have sold large quantities of this material for various uses, and had competition from nearly all of the other waterproofings manufactured, but to the present time, we have always succeeded in obtaining large orders for Medusa Waterproofing, many of these being repeat orders from architects who know that Medusa is satisfactory for all work where waterproofing can be used.

We have never seriously considered handling any other brand. We have sold it for use extensively; for foundation walls in Wheeling's flood district, for waterproofing concrete in swimming pools, for wells and cisterns, and lately for waterproofing sprinkler system storage tanks.

It has always been satisfactory. Yours truly,

F. P. JONES COMPANY,
Geo. A. Bailey, Sec'y-Treas.

The Sandusky Cement Co., Beatrice, Nebr., October 23, 1918.
Cleveland, Ohio.
Gentlemen:

We have handled Medusa Waterproofing for several years past, and wish to say that we have never received any complaint whatsoever regarding the same.

Consequently, all you claim for it must certainly be making good. We have sold several tons of it with a steady increase in tonnage every season, and we will continue to handle the same in the future, push it, and advertise it in our monthly price list, together with the help that you are giving us through your various advertising mediums. Respectfully yours,

THE JOHN H. von STEEN CO.,
John H. von Steen, Pres. and Treas.

THE ACTION OF SALT AND BRINE ON CONCRETE

In a paper in the Journal of The Franklin Institute, Prof. J. N. Creighton, Dept. of Chemistry, Swarthmore College, discusses the action of salt water and brine on reinforced concrete, citing the experiences of the use of concrete in salt water, in buildings and other structures subjected to the action of brine and with structures where salt water was used for the concrete mix.

The paper reviews in considerable detail the chemical reactions involved, and draws the following conclusions:

1. All concrete which is not waterproofed in some way is more or less porous to water and brine.

2. Brine readily softens the surface of concrete and, therefore, more easily penetrates to the reinforcement, on which it exerts a disintegrating action that, owing to the attendant expansion, gradually weakens the concrete, causing it to crack and split, and in some cases to fall away from the reinforcement.

3. The more porous the concrete, the more rapid the disintegration of the reinforcement through the action of the brine.

4. Reinforced concrete floors which come in contact with brine will gradually develop leaks. These will be followed by incrustations of discolored salt on the under side, where, later, iron-stained hair cracks will develop running parallel to the reinforcements. As the deterioration progresses, the cracks will widen and, owing to the great expansive force of the accumulating iron oxide, the concrete will be gradualy pushed from the corroded reinforcements and ultimately fall.—Concrete.

———o———

ACTION OF SALT WATER ON MEDUSA WATERPROOFING

The action of salt water on concrete is primarily upon the cement and any waterproofing that effectively prevents the penetration of sea water into the concrete will preserve the latter from any deleterious action.

Medusa Waterproofing is equally resistant to sea and fresh water, and its composition insures the protection of concrete from the penetration of water into the interior and reduces the action of sea water to zero, where it is thoroughly and properly incorporated with the concrete.

Concrete properly waterproofed with Medusa Waterproofing is as impervious to the action of salt water as concrete can possibly be made, and many instances of its use under trying circumstances have proved its efficacy.

———o———

MEDUSA WATERPROOFING DOES NOT CONTAIN SOAP

The Bureau of Standards has issued a publication (Technologic Paper No. 70) entitled "Durability of Stucco and Plaster Construction," in which it presents a report of the progress in an investigation of stucco and plaster undertaken by the Bureau five years ago.

In this report "Medusa" Waterproofing is referred to as of the "calcium soap type" and as this expression is likely to give an entirely false impression, we believe the following statement quite opportune:

"Soap," as ordinarily understood, is a compound of fatty acids (which are perfectly neutral and non-acid substances) with potash or soda, and is freely soluble in water. Medusa Waterproofing is a compound of these fatty acids with **lime**, and is an entirely insoluble powder absolutely unaffected by water, and not "soapy" in any sense. Chemically it might be considered as belonging to the group of soaps, but is totally different in properties from materials understood from this name. Medusa Waterproofing paste is of a gelatinous and soft nature and might be considered similar to soap in consistency. However, when brought into contact with cement, it at once changes to the same insoluble substance of which Medusa Waterproofing powder consists.

Medusa Waterproofing is absolutely unaffected by boiling water and contains no soap in the ordinary sense of the term

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INTEGRAL WATERPROOFING

By a mail canvass of 10,000 architects and engineers, "Structural Conservation" secured more than 2,600 replies to queries relative to integral waterproofing. More than 94% favored integral waterproofing of concrete under hydrostatic pressure, and 92% stated that their observation had shown that integral waterproofing is beneficial in filling the pores of concrete and preventing the absorption of moisture, whereas concrete not waterproofed is absorptive of moisture.

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Medusa Waterproofing paste is recommended for wet poured concrete and Medusa Waterproofing powder for dry tamped work.

MEDUSA Waterproofing is Considered a Staple Commodity

What a large Chicago builders' supply dealer has to say about it

WISCONSIN LIME & CEMENT CO.

JOSEPH HOCK, PRESIDENT
ADOLPH LOEFFLER, V. PRES & TREAS.
H. S. BALHATCHET, SECRETARY

TELEPHONE FRANKLIN 1371
PRIVATE SWITCHBOARD ALL DEPTS.

CHAMBER OF COMMERCE BUILDING
CHICAGO

Sandusky Cement Co.,
Cleveland, Ohio.

Chicago, September 17, 1918.

Gentlemen:

Replying to your inquiry as to our impression of Medusa Waterproofing from our experience as selling agents in this territory, we would say that so far as pointing out any particular jobs worthy of special mention for advertising purposes, we are hardly in position to do this as Medusa Waterproofing long since has been considered by us as such a staple commodity and is sold and delivered by us in the same manner as portland cement, lime or other merchandise that goes to the contractors without drawing any special attention or considered of importance enough to be worthy of record or comment.

We have many customers who seldom order portland cement without including in their order a bag or two of Medusa Waterproofing which is sold and delivered to them without question as to what kind of a building it goes into or for what purpose it is used. The contractors are as familiar with the use of Medusa Waterproofing as they are with the portland cement itself.

In this connection we will say that our stock is running low and we request that you hasten shipment of the order placed with your Chicago representative a few days ago and oblige.

Trusting that the above explanation of our opinion of Medusa Waterproofing will answer your purpose as well as though we gave you a list of jobs on which it was used and forwarded you numerous photographs of different buildings into which it has gone, we are,

Very truly yours,
WISCONSIN LIME & CEMENT CO.
(Signed) C. F. Dynes, Sales Manager.

CFD-A

White Atlas 2.15 @ Bag
Medusa Waterproofing .12 @